

## ON AUSTRALIAN RHOPALOCERA.

By NORMAN B. TINDALE.

*(Contribution from the South Australian Museum.)*

[Read October 11, 1923.]

PLATES XXVIII. TO XXX.

This paper deals with some butterflies contained in the South Australian Museum, and a few notes on synonymy. A list is also given of the species taken by the author on Groote Eylandt and adjacent islands in the Gulf of Carpentaria.

As a result of the acquisition in 1920 of the Lucas Collection of Australian Butterflies, which includes the Illidge Collection, our reference series (which now comprises some 9,000 specimens), was selected from over 20,000 specimens, including collections from W. D. Dodd, W. K. Hunt, R. Illidge, H. G. Stokes, T. O. Thomas, H. Wesselman, and others. The series also includes most of the types of the species described by Dr. T. P. Lucas, and Messrs. E. Guest and J. G. O. Tepper, the type sexes of one species described by Messrs. Waterhouse and Lyell, and eight species described by Mr. W. H. Miskin from the Lucas Collection.

## Family NYMPHALIDAE.

## EUBLOEA USIPETES HIPPIAS, Miskin.

Pl. xxviii., fig. 1.

The type female, from Thursday Island, described by Waterhouse and Lyell, is now in the South Australian Museum and is figured herein.

## HYPOCYSTA ADIANTE ANTIRIUS, Butler.

Pl. xxviii., figs. 2, 3.

Long series taken on Groote Eylandt and Bickerton Island are very similar to the typical *H. a. antirius*, but specimens are generally much smaller. The posterior ocellus of hindwings often appears to be scaled above, especially in the male, and the wings are more densely scaled than in the Darwin specimens.

## OREIXENICA ORICHOHA FLYNNI, Hardy.

Pl. xxviii., figs. 4-6.

*Oreixenica flynni*, Hardy, Roy. Soc. Tas. Papers and Proc., 1916, p. 146.

♂. Above. Forewings brown, markings black; markings as in female; discal spots in areas 1a and 2 enlarged, that in area 1a coalescing with subbasal spot; both reaching to cell. Hindwings as in female. Beneath. As in female. Expanse, 34 mm.

*Hab.*—Tasmania: Cradle Mountain, in January, at about 2,000 feet elevation (Messrs. Carter and Lea). Type of male, I. 13055.

The butterfly was taken in numbers by Messrs. Carter and Lea at the typical locality. The race has not previously been figured; the plate shows the male, female, and a reverse of the male.

## EULEPIS PYRRHUS CANOMACULATUS, Goeze.

*Papilio canomaculatus*, Goeze, Ent. Beytr., III., i., 1779, p. 88.

*Papilio sempronius*, Fab., Ent. Syst., III., i., 1793, p. 62.

*Charaxes canomaculatus*, Kirby, Syn. Cat. Diurn. Lep. Supp., 1877, p. 748.

*Eulepis pyrrhus sempronius*, Waterhouse and Lyell, Butt. of Austr., 1914, p. 51.

Kirby's correction of the synonymy as above has been overlooked. The little-known paper by Goeze has been responsible for a number of changes.

## PRECIS V. VILLIDA, Fab., aberration.

Pl. xxviii., fig. 7.

♂. Above. Forewings brown-black, lighter on termen; two orange bars in cell, no traces of cream discal patch or ocellus, only faint trace of subapical cream spot; orange enclosed ocellus in area 2 small and incomplete. Hindwings grey-brown; a submarginal series of ill-defined light greyish-brown spots forming a broad band, interrupted by veins.

Beneath. Forewings light buff, two broad bars in cell black; centre and cell suffused dusky-orange; a postcellular blackish suffusion; apex and termen devoid of markings; an ocellus in area 2 with orange patch on inner side. Hindwings light buff, devoid of markings. Brisbane (Dr. T. P. Lucas).

A similar aberration from South Australia (E. Guest) differs only in having the ocellus of forewing above larger; two incomplete whitish ocelli on hindwings, bordered on inner side by an orange lunular mark, and the submarginal light greyish-brown spots smaller, nearer margin, and more sharply defined.

## PYRAMEIS CARDUI KERSHAWI, McCoy, ab. LUCASI, Miskin.

Pl. xxviii., fig. 8.

*Pyrameis lucasi*, Miskin, Proc. Linn. Soc. N.S. Wales, 1888, p. 1516.

This aberration (Type, I. 14435) was taken by Dr. T. P. Lucas in Victoria. It appears possible that it is a natural hybrid between *P. kershawi* and *P. itea*, Fab.; it has points of resemblance to both species, and it would be interesting to test this conclusion by breeding experiments.

## HYPOLIMNAS MISIPPUS, Linne.

Pl. xxviii., figs. 9, 10.

An interesting female form of this species, taken at Darwin by Mr. T. O. Thomas, has the black apical area of forewing above replaced by an orange-brown suffusion, and the white discal band obscured by orange scales. Beneath, the white band is also obscured and the insect scarcely distinguishable from a specimen of the *inaria* form from India, save that it is smaller. A typical Australian example is figured (fig. 9) for comparison. In Africa and India this species is commonly dimorphic in the female, but this is the first record of a second female form in Australia.

## ATELLA PHALANTA ARACA, Waterhouse and Lyell.

Pl. xxviii., fig. 11.

The female of this rare form has not previously been figured. Mr. T. O. Thomas took three specimens at Darwin, and there are several, all males, in our collection. The female appears to be lighter coloured and the hindwing above is less strongly marked.

## Family LYCAENIDAE.

## NESOLYCAENA ALBOSERICEA, Miskin.

*Holochila albosericea*, Miskin, Syn. Cat. Rhop. Austr., 1891, p. 65 (March?).

*Holochila (Polyommatus) caeruleolactea*, Lucas, Butterflies and Moths, Brisbane, 1891, p. 1 (April 20).

The paper by Lucas was published at Brisbane on April 20, 1891. Miskin's Catalogue is dated 1891, the preface is dated November, 1890, and the answer to an enquiry to the Queensland Museum was "published probably in March"; it would appear that Miskin's name has priority. The status of Lucas' paper has been considered doubtful. It was apparently issued as a separate on the above

date, and reprinted in "The Queenslander," a newspaper, on May 2 and 9, 1891. The "Zoological Record" for 1891 accepts it.

The type male and female of *H. (P.) caeruleolactea* from "hills beyond Daringa" are in our collection.

#### CANDALIDES CYPROTUS, Olliff.

Two male specimens, taken by the late Mr. E. Guest at Halbury in September, are a new record for South Australia.

#### LAMPIDES TRANSLUCENS, Lucas.

*Holochila (Polymmatius) translucens*, Lucas, Butterflies and Moths, Brisbane, 1891, p. 1.

The type (a male) of this species is in our collection. It is said to have been taken by Lieutenant Lucas on the North Australian coast. It is a *Lampides* allied to *L. elpis*, Godart, of India.

#### OGYRIS ZOSINE, Hew.

The synonymy of this species and its races has become somewhat complicated and needs elucidating. The synonymy is detailed here so as to facilitate reference:—

- Ogyris zosine*, Hew., Exot. Butt., i., 1853, pl. 1, f. 3, 4. ♂.
- O. genoveva*, Hew., Exot. Butt., i., 1853, pl. 1, f. 5, 6. ♀.
- O. zosine*, Hew., Cat. Lyc. B.M., 1862, pl. 1, f. 7. ♂ (*nec* ♀).
- O. genoveva*, Hew., Cat. Lyc. B.M., 1862, p. 3.
- O. zosine*, Kirby, Syn. Cat. Diurn. Lep., 1871, p. 425.
- O. genoveva*, Kirby, *l.c.*, p. 425.
- O. genoveva*, Miskin, Trans. Ent. Soc. Lond., 1883, p. 343, pl. 15, f. 1-5.  
♂, ♀, and var. *a.*, ♀.
- O. genoveva*, Miskin, Proc. Linn. Soc. N.S. Wales, 1890, p. 23.
- O. genoveva*, Waterhouse, Proc. Linn. Soc. N.S. Wales, 1903, p. 245.
- O. zosine*, Bethune-Baker, Trans. Ent. Soc. Lond., 1905, 278 *et seq.*
- O. zosine-duaringa*, Bethune-Baker, *l.c.*, p. 280.
- O. zosine-magna*, Bethune-Baker, *l.c.*, p. 281.
- O. zosine*, Waterhouse and Lyell, Butt. of Aust., 1914, p. 119 *et seq.*
- O. zosine typhon*, Waterhouse and Lyell, *l.c.*, p. 120.
- O. zosine typhon*, f. *iberia*, Waterhouse and Lyell, *l.c.*, p. 120.
- O. zosine zosine*, f. *zenobia*, Waterhouse and Lyell, *l.c.*, p. 120.
- O. zosine araxes*, Waterhouse and Lyell, *l.c.*, p. 121.
- O. zosine*, Bethune-Baker, Ann. Mag. Nat. Hist., (8), xvii., 1916, p. 386 *et. seq.*

Hewitson (1853) described and figured the male as *Ogyris zosine*, and on the same page and plate the female as *O. genoveva*, without giving a definite locality for his types. Subsequently (1862) he figured the under-surface of a male, in error, as that of the female of *O. zosine*. Kirby (1871) catalogued *O. zosine* and *O. genoveva* as distinct species, giving "Australia" as the locality for the former and "Moreton Bay" for the latter. Miskin (1883) described and figured both sexes of the species under the name of *O. genoveva*, giving the localities as "Brisbane; Dawson River (Barnard); Queensland," and described and figured a violet form of the female as "var. *a.*, Female." Again in 1890 he gave the synonymy in his revision of the genus. Waterhouse (1903), in his tabulation of synonymy, pointed out that strictly *O. zosine* had priority over *O. genoveva*.

In 1905, Bethune-Baker, in his review of the genus, assuming the privilege of first reviewer, corrected the name of the species to *O. zosine*, and recorded

the type form as being found in "Townsville and its neighbourhood." He also stated, "The 'female' is dimorphic. I have therefore retained the name *genoveva* for the pale-blue 'female' as described by Hewitson." He described as races *O. zosine-duaringa* from Coomoolooloo, "N. Queensland" (really Southern Queensland), and *O. zosine-magna*, from Brisbane.

Waterhouse and Lyell (1914) gave evidence to show that Hewitson's types came from Moreton Bay (Brisbane), and accordingly restricted the name *zosine* (correctly *zosine*) to the race with dimorphic female, with Southern Queensland and Northern New South Wales; described *O. zosine typhon* with its purple female f. *iberia* from Townsville and north, and *O. zosine araxes* from Victoria, while the purple female of typical *O. zosine* was named f. *zenobia*. They sank *O. genoveva*, Hew., and *O. zosine-magna*, Bethune-Baker, as direct synonyms of *z. zosine*, as also *O. zosine-duaringa*, Bethune-Baker, as not sufficiently distinct to merit even a varietal name.

Bethune-Baker (1916) reviewed the synonymy in detail. He stated *inter alia*, "I definitely selected the dull-purple 'female' as the female type of Hewitson's species. . . . Hewitson himself had described the blue form as *genoveva*, . . . and he did so because he had lying before him the dull-purple form of the 'female' as well as the pale-lustrous one, and this alone justifies me in selecting that form as the type form, but, in view of Hewitson's action, it is the only reasonable thing to do." He also identified *O. zosine araxes*, Waterhouse and Lyell, the Victorian form, extending to Sydney, as being *O. zosine-magna*, Bethune-Baker (Brisbane). He stated, "From the descriptions it would appear that the two forms must of necessity be the same; knowing the species as well as I do, I feel quite sure they are."

Miskin (1883), really the first reviewer, definitely associated the purple male and the light silvery-blue female from Southern Queensland (Brisbane and Dawson River), and described the violet (purple) female as a variety. The fact that he used the name *genoveva*, Hew.=*zosine*, Hew., does not alter this association in any way, and Miskin himself, although he did not alter the name, was aware of the synonymy (*vide* Proc. Linn. Soc. N.S. Wales, 1890, p. 23). In the absence of further evidence as to the localities of Hewitson's types, Miskin's action would be sufficient, by itself, to fix the typical form as being from Southern Queensland; while, apart from this, Waterhouse and Lyell's selection of "Moreton Bay" as the type locality, cannot be regarded as "pure guess work," for it is well known that Hewitson received most of his material from Diggles, who lived at Brisbane; the evidence of the figures points to the Brisbane form, and, according to Bethune-Baker's statement, a further specimen labelled "Moreton Bay" was associated with the species by Hewitson himself.

Despite Bethune-Baker's statement that he definitely selected the purple form as the female of his typical *O. zosine*, it is nowhere definitely stated so in his 1906 monograph. He, however, stated that the name *genoveva* was retained for the pale-blue female, the above being probably inferred. There is no evidence in any of Hewitson's published work to show that he had before him, and described, the purple female, and, therefore, Bethune-Baker is not justified in selecting it, contrary to Miskin, as the type female.

Waterhouse and Lyell state that Bethune-Baker did not fix a type form, but on page 278 of the 1906 monograph Bethune-Baker does definitely fix Townsville as the type locality. His selection is overruled by that of Miskin.

*O. zosine-magna* is a direct synonym of *O. z. zosine*. *O. z. araxes* is the extreme southern race, is apparently not dimorphic, and cannot possibly be identified with the form *O. zosine-magna*, from Brisbane. The Sydney examples, while brighter than the type of *z. araxes*, are not sufficiently distinct from it to form an intermediate race.

Following are notes upon the geographical races so far recognized from Australia:—

OGYRIS ZOSINE TYPHON, Waterhouse and Lyell.

Pl. xxix., fig. 15.

*Ogyris z. zosine*, Bethune-Baker (*nec* Hewitson, Miskin, and Waterhouse and Lyell).  
*Ogyris zosine*, ♀ f. *genoveva*, Bethune-Baker.

Ranges from Mackay north to Cooktown and also to Darwin. The male is dull purple, the female metallic-blue. The figure is of the female.

OGYRIS Z. TYPHON, f. IBERIA, Waterhouse and Lyell.

Pl. xxix., fig. 14.

*Ogyris zosine zosine*, Bethune-Baker. ♀.

The dull-purple female form of *O. z. typhon*. Specimens have been taken at Townsville and Cairns.

OGYRIS Z. ZOSINE, Hewitson.

Pl. xxix., fig. 13.

*Ogyris zosine-magna*, Bethune-Baker.

*Ogyris genoveva*, Hew., Kirby, and Miskin.

*Ogyris zosine-duaringa*, Bethune-Baker.

*Ogyris zosine zosine*, Waterhouse and Lyell.

The type locality is Moreton Bay (Brisbane), and the type form ranges from Daringa (=Coomooboolaroo) as far south as the Richmond River in Northern New South Wales. Daringa specimens are not sufficiently distinct to be considered another race.

Text fig. *a* shows a second male form of the typical race from Brisbane. It is smaller than the typical male, the colour is very dull purple, duller than any specimens of *z. typhon*, and the black margins are more pronounced. It expands 45 mm.



Text fig. A.

*Ogyris z. zosine*, Waterhouse and Lyell,  
male.



Text fig. B.

*Ogyris z. zosine*, f. *zenobia*,  
Waterhouse and Lyell.

OGYRIS Z. ZOSINE, f. ZENOBIA, Waterhouse and Lyell.

*Ogyris genoveva*, var. *a.*, ♀, Miskin.

The purple female form of typical *O. zosine*. It is much brighter and larger than f. *iberia* of *O. z. typhon*. Mr. R. Illidge has bred and taken a number of specimens at Brisbane. It is also recorded from the Richmond River and Dawson River. Text fig. B shows an example from Brisbane.

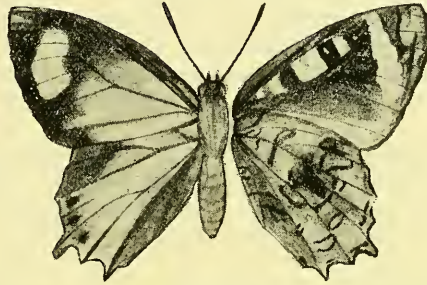
## OGYRIS Z. ARAXES, Waterhouse and Lyell.

*O. z. magna*, Bethune-Baker (*nec* Waterhouse & Lyell).

This is the typically Victorian race of *O. zosine*. Its extreme northern range is Sydney, where it varies a little towards the typical race. It is apparently not dimorphic, no purple female being known.

***Ogyris zosine splendida*, n. subsp.**

Pl. xxix., fig. 12.



Text fig. C.

*Ogyris zosine splendida*, Tindale, female.

♀. Above. Forewings black; basal two-fifths light metallic-blue, a discal patch between area 2 and vein 6, cream; apex-tipped whitish, a small streak in area 7 light blue; cilia whitish, at veins black. Hindwings black, a large central and terminal area light metallic-blue, enclosing three irregularly defined black spots in areas 3 to 5; cilia white, at veins black.

Beneath. Forewings brown; dorsum grey-brown, apex suffused whitish; bar at end of cell black; cell bars broad, white, tinged with bluish, a spot at two-thirds blue; a discal cream patch from near vein 2 reaching vein 10, where it is whitish; the V-shaped mark external to cream patch broadly black. Hindwings brown, markings typical; basal, dorsal and apical areas suffused whitish; central suffusion rich brown, subterminal suffusion light brown. Expanse, 57 mm.

*Hab.*—South Australia: Mount Painter, Flinders Range (H. G. Stokes). Type, I. 13170.

The greater expanse of light metallic-blue extending to the termen of the hindwings gives this race an appearance very distinct from all the others. The body colour and the down on the hindwing is a light grey. Sufficient material is not available to define the range of the race, but a battered female from Fortescue River, North-western Australia, may belong to it.

## OGYRIS OTANES, Felder.

Pl. xxix., figs. 16-19.

*Ogyris halmaturia*, Tepper, Common Native Insects, Adelaide, ii., 1890, p. 12 (part).  
*Ogyris halmaturia*, Bethune-Baker, Trans. Ent. Soc., Lond., 1905, p. 277.

The name *O. halmaturia* was founded upon two species; the male described is a typical *O. otanes*. The type of *O. otanes* came from Adelaide, and Tepper's specimen from Kangaroo Island. Bethune-Baker, in 1905, examined Tepper's male specimen (he did not see the other described specimen) and separated the island specimens as a distinct species, closely allied to *O. otanes* under Tepper's name. The comparison of 36 specimens (28 mainland, 8 island) reveals no specific differences. All the specimens from South Australia belong to one species. The male, female, and a reverse of the male are figured, together with

Tepper's male specimen. Mr. F. Angel has taken it plentifully at Kingscote, Kangaroo Island, in November.

OGYRIS HALMATURIA HALMATURIA, Tepper.

Pl. xxix., fig. 20.

*Ogyris halmaturia*, Tepper, Common Native Insects, Adelaide, ii., 1890, p. 12 (part).

Considerable confusion has existed regarding this species. The supposed sexes, as described by Tepper, are both males and belong to distinct species. The type male is a typical specimen of *O. otanes*, Feld.; the "female" is the male of a species very close to *O. waterhouseri*, Bethune-Baker, and, as in the original description, the "female" is mentioned and described first, the name *halmaturia* will stand. The typical locality is Kangaroo Island. As no further specimen is known, a description and figure of the type, which lacks both its antennae, is given.

♂. Above. Forewings strongly convex, dull purplish, apex and termen rather broadly black, a few scales at apex white; veins blackish; cilia white, at veins and hinder angle brownish-black. Hindwings dull purplish, costa broadly and termen narrowly brownish-black; veins blackish, with a conspicuous black spot at apex of cell.

Beneath. Forewings brownish, similar to *O. (h.) waterhouseri*, the transverse white bars conspicuous, the apical white bar of cell tinged with brilliant blue, a few scales at apex of cell purple. Hindwings dark brown, suffused whitish, the markings larger than in *O. (h.) waterhouseri*, broadly V-shaped and arranged parallel to margin of wing. A median area brownish-black. Expanse, 50 mm.

*Hab.*—South Australia: Kangaroo Island, in November (J. G. O. Tepper). Type, I. 14427, unique.

The type is very distinct from *O. idmo*, and cannot be regarded as a race of that species. *O. waterhouseri* is also apparently distinct from *O. idmo*, and should be regarded as a race of the present species. Waterhouse and Lyell associated *O. idmo* and *O. waterhouseri* as races with considerable doubt.

OGYRIS H. WATERHOUSERI, Bethune-Baker.

This form appears sufficiently distinct from the Kangaroo Island form to be regarded as a race. Collectors should look out for both these forms, as very few specimens have ever been taken. The present form has been taken at Dimboola and in the Grampians, Victoria.

OGYRIS ABROTA, Westwood.

A single male taken at Mount Gambier, in April, by the late Mr. E. Guest, is a new record for South Australia.

HYPOLYCAENA PHORBAS PHORBAS, Fab.

Pl. xxix., figs. 23, 24.

*Hab.*—New Guinea ("Ins. Papuanæ"); Queensland: Cape York to Mackay. Queensland examples are not sufficiently distinct from New Guinea ones to be considered a distinct race. The type form is from "Ins. Papuanæ."

HYPOLYCAENA P. PHORBAS, ♂, f. NOCTULA, Staudinger.

There was a specimen of this dark-purple form of the male from North Queensland in the Lucas collection. The markings beneath are pale yellowish-brown and the spots at tornus beneath are prominent, but entirely absent above.

**Hypolycaena phorbas ingura**, n. subsp.

Pl. xxix., figs. 21, 22.

♂. Above. Forewings black, a large central area dark blue, a large circular patch at end of cell black, no traces of a suffused whitish patch in area 1 *a*, cilia black tipped with white. Hindwings dull black, suffused dark purple, with a series of white subterminal rings at tornus enclosing two black spots; anal lobe faintly centred yellowish, terminal line black, cilia blackish tipped with white.

Beneath. Dull grey, markings typical. Expanse, 34 mm.

♀. Above. Forewings dull black, sometimes traces of a central white patch, cilia black tipped with white. Hindwings dull black, a series of subterminal rings, at tornus enclosing two black spots, one in area 3 bordered with orange, anal lobe with orange centre.

Beneath. As in male, ground-colour usually lighter. Expanse, 40 mm.

*Hab.*—Northern Territory: Groote Eylandt, January to March; Bickerton Island, April (N. B. Tindale); Darwin, January, December (W. K. Hunt); 12 males, 31 females. Types, I. 14428.

This is the western race of *H. p. phorbas*, Fab., and a comparison with New Guinea and North Queensland examples shows it to be distinct. Only a few Queensland male examples show a tendency to a purple hindwing, while the females of *H. p. ingura* in a series of 31 specimens are all without, or have only a few traces of, the white discal area of forewing. All our specimens of this race are smaller in expanse of wing, this being particularly marked in the island ones.

## LIPHYRA BRASSOLIS MELANIA, Waterhouse and Lyell.

*Liphyra b. melania*, Waterhouse and Lyell, Butt, of Austr., 1914, p. 135. ♂.

♀. Above. Forewings orange, apex and termen broadly brownish-black, costa and termen narrowly edged with brown. A large irregular spot occupying most of cell, and confluent with two large discal black spots in areas 2 and 3. Hindwings orange, a subterminal border brownish-black. Three discal spots in areas 2, 3, and 5. Termen bordered with brown.

Beneath. As in male. No trace of silvery markings, except a small spot below apex of forewings. Expanse, 83 mm.

*Hab.*—Northern Territory: Groote Eylandt, January (N. B. Tindale); Darwin (W. K. Hunt). Type female, I. 13776.

The two females in our collection are very similar to Queensland examples. The black area in cell above is larger, occupying all of cell except lower portion of basal third, while the dark bands and spots are broader. Beneath is dark brown in the Groote Eylandt example, there being no trace of silvery markings or suffusions. The Darwin example is very worn and faded.

The type female flew to a light at 8.30 p.m. on a sultry night, in my camp at Yetiba, Groote Eylandt, and settled on a ridge pole with wings drooped in such a manner as to be taken at first glance for one of the Ophiderinae, or orange-piercing moths. Another specimen, a male, was seen flying high, around a flowering tree in the scrub about noon, but after several attempts to capture it with a long-handled net, it flew away very rapidly, high over the trees.

## Family PIERIDAE.

**Delias ennia dorothea**, n. subsp.

Pl. xxx., fig. 25.

♂. Above. Forewings white; costa narrowly black; apex black with a series of four white spots. Hindwings white, termen from vein 7 to dorsum black, a faint trace of white subterminal spots.



Beneath. Forewings marked as above, with six, more sharply defined, sub-apical spots, the costal two bright yellow. Base suffused with yellow. Hindwings white; basal area, from half costa to beyond cell, golden-yellow; termen black, enclosing five large reddish-orange spots; an apical orange spot, and an orange-suffused spot on dorsum. Expanse, 70 mm.

*Hab.*—Queensland: Coen River (W. D. Dodd). Type, I. 13652.

This subspecies is distinguished from the following more southern one\* by the much larger, and brilliantly orange-coloured terminal spots of hindwings beneath, and by the extension of the yellow basal colour over half the wing. Typical *D. ennia* was described from Waigiou.

DELIAS ENNIA NIGIDIUS, Miskin.

Pl. xxx., fig. 26.

This race is taken in the scrub areas of the Cairns district. A figure is given for comparison with the more northern race. The terminal spots of hindwings beneath are deep yellow, and the base of the wing only is suffused with light yellow.

DELAIS M. MYISIS, Fab.



Text figs. D, E.

*Delias m. mysis*, Fabricius, gynandromorph.

There is a gynandromorphic specimen of this species in our collection from Cairns, taken by Mr. A. M. Lea. The left side is marked as in a female, and the right side as in a male. It expands 65 mm. Figs. *d* and *e* show the upper and under surfaces.

*Elodina perdita tongura*, n. subsp.

♂. Above. Forewings slightly acute at apex, white; base and basal third of costa with scattered dark-brown scales; apex black, inner edge of dark apical area somewhat bisinuate. Hindwings white.

Beneath. Forewings white, base lemon-yellow; a subapical patch light brown. Hindwings white. Expanse, 42 mm.

♀. Above. As in male, apex of forewing more rounded.

Beneath. As in male. Expanse 46 mm.

*Hab.*—Northern Territory: Groote Eylandt, February to April; Winchilsea Island, April; Woodah Island, April (N. B. Tindale), 16 specimens. Type, male, I. 13777; female, I. 13778.

This island race may be distinguished from *E. p. walkeri* by its larger size, darker black markings, bisinuate inner edge of apical area above, and by the subapical brown patch on forewings beneath. The range of expanse in our series is 42 to 48 mm. In *E. p. walkeri* 32 to 39 mm. The three specimens

from Woodah Island, in Blue Mud Bay, have the subapical patch beneath very faintly visible, but are larger than any specimens of *E. p. walkeri* in our collection. Mainland specimens from Roper River are very typical *E. p. walkeri*. It is also distinct from *E. perdita perdita*. *Tongura* is a Groote Eylandt native (Ingura) word meaning "pipeclay" or "chalk."

ELODINA PADUSA, Hewitson.

A perfect specimen of this species was taken at Mount Painter, in the Flinders Range, by the late H. G. Stokes. This is a new record for South Australia. Mr. R. Illidge has also taken it at Brisbane, though not abundantly. It is the rarest of the genus and has only been recorded so far from single specimens taken in New South Wales, Victoria, and North-western Australia.

Family PAPILIONIDAE.

PAPILIO AMYNTOR AMPHIARAUS, Felder.

This interesting species, the only butterfly peculiar to Norfolk Island, has not previously been figured. The specimen, a female, was taken by Mr. A. M. Lea.

EURYCUS CRESSIDA CASSANDRA, Waterhouse and Lyell.

Groote Eylandt specimens are larger than *E. c. cassandra*; in the male they approach typical *E. c. cressida*, but the wings of the females are completely scaled beneath and are distinct from the latter. The butterfly was the most common and conspicuous one seen on the island.

The female was discovered laying eggs on one of the *Aristolochia* vines. The eggs are globular, yellow, with sixteen rows of raised, orange-coloured tubercles, arranged symmetrically; apex with an orange tubercle, the base orange. Diameter, 1 mm. The larvae hatched in ten days. Adult larvae were also obtained, but are not now in condition to be described.



Text fig. F.  
*Parnara mathias*, Fabricius.  
Pupa.

Family HESPERIDAE.

PARNARA MATHIAS, Fab.

A pupa was found among grass stems on Groote Eylandt during March, and the butterfly, a female, emerged on May 12. The period of pupation seems long. The pupa was green, smooth and cylindrical, tapering gradually to the anal extremity. Head prolonged in a smooth-pointed horn. Apex of abdomen

curved ventrally and elongated, ending in a laterally flattened, somewhat rounded point. On the dorsum of the live pupa there were longitudinal stripes of pale and darker green showing through the transparent outer shell. Length, 29 mm.; breadth, 6 mm.

#### LIST OF THE BUTTERFLIES OF GROOTE EYLANDT AND ADJACENT ISLANDS.

Fifty-eight species and varieties were taken on Groote Eylandt during a sojourn extending, with a short break, from June, 1921, to May, 1922. The majority were taken during the rainy season, from November to March.

The records are of interest geographically, for Groote Eylandt lies half-way (measuring along the coastline) between the two main channels of butterfly migration into Australia. Practically not one of the typically New Guinea forms so abundant in Northern Queensland and Cape York has found its way so far west. The prevailing winds in the "wet" season are north-west and west, while south of the Mitchell River in Queensland, as far round the head of the Gulf as Roper River, scrub and rain forests are absent, and the climate is very dry, except for the short rainy season; and these have been barriers to the western extension of the range of these species. Comparatively few of the Timor migrants also have spread so far to the east, so that the species taken in the dense scrubs and rain forests of the island are the widespread, more ancient Australian forms, such as are found over the whole of the northern part of Australia. One notable feature is that specimens of many of the species are smaller than mainland ones. This dwarfing has been noted also by Mr. A. M. Lea in a number of species of Coleoptera. Two exceptions to this are the forms of *Eurycyus cressida* and *Elodina perdita*, which are both larger than the usual Northern Territory forms.

In the list, where no islands are specifically mentioned, the records are for Groote Eylandt. The figures after the name indicate the months during which specimens were taken:—

#### Family NYMPHALIDAE.

- Danaida chrysippus petilia*, Stoll.—1, 2, 7, 8, 11, 12.  
*D. affinis affinis*, Fab.—1, 2, 3, 12.  
*D. melissa hamata*, Macl.—2, 3.  
*Euploea corinna corinna*, Macl.—2, 11, 12.  
*E. sylvester pelor*, Doubl. and Hew.—2.  
*E. s. pelor*, f. *dardanoides*, Waterhouse and Lyell.—2.  
*Mycalesis sirius sirius*, Fab.—1, 2, 3, 11, 12.  
*M. perseus perseus*, Fab.—6.  
*M. p. perseus*, f. *infusata*, Macl.—Groote Eylandt 1, 2, 3, 12; Bickerton Island 4.  
*Melanitis leda bankia*, Fab.—3, 12.  
*M. l. bankia*, f. *barnardi*, Lucas.—1.  
*Hypocysta adiante antirius*, Butl.—Groote Eylandt 1, 2, 3, 4, 11, 12; Bickerton Island 4.  
*Precis villida villida*, Fab.—Groote Eylandt 2, 3, 12; Woody Island, 4.  
*P. orithyra albicincta*, Butl.—1, 2, 12.  
*Hypolimnas bolina nerina*, Fab.—1, 3, 11.  
*H. alimena darwinensis*, Waterhouse and Lyell.—2, 12.  
*Cethosia penthesilea paksha*, Fruhs.—4, 7.  
*Acraea andromacha*, Fab.—8.

## Family LYCAENIDAE.

- Candalides erinus*, Fab.—Groote Eylandt 1, 2, 3, 4; Woodah Island 4.  
*Nacaduba ancyræ estrella*, Waterhouse and Lyell—1, 2, 3, 11.  
*N. dubiosa*, Semp.—12.  
*Everes argiades*, Pall.—3.  
*Euchrysope cnejus cuidus*, Waterhouse and Lyell—1, 2, 3, 12.  
*Jamides phaseli*, Mathew—3.  
*Catochrysope emolus affinis*, Waterhouse and Turner—2, 3.  
*Chilades trochilus putli*, Koll.—Groote Eylandt 2, 3; Woodah Island 4.  
*Zizina labradus labradus*, Godt.—2.  
*Zizeeria alsulus*, Herr.-Schaeff.—Groote Eylandt 1, 3; Woodah Island 4; Bickerton Island 4; Woody Island 4.  
*Z. lysimon karsandra*, Moore—2.  
*Theclinsthes onycha*, Hew.—Groote Eylandt, var.  
*Arhopala amyntis cyronthe*, Misk.—2, 11.  
*A. centaurus asopus*, Waterhouse and Lyell—2.  
*Hypolycaena phorbis ingura*, Tindale—Groote Eylandt 1, 2, 3; Bickerton Island 4.  
*Liphyra brassolis melania*, Waterhouse and Lyell—1.

## Family PIERIDAE.

- Elodina perdita tongura*, Tindale—Groote Eylandt 2, 3, 4; Winchilsea Island 4; Woodah Island 4.  
*Anaphaeis jaxa teutonia*, Fab.—7, 8.  
*Huphina perimale scyllara*, Macl.—Groote Eylandt 2, 4, 12; Winchilsea Island 4.  
*Appias paulina ega*, Boisd.—12.  
*Catopsilia pyranthe pythias*, Waterhouse and Lyell—8.  
*C. pomona pomona*, Fab.—7, 8, 11.  
*Terias hecabe sulphurata*, Butl.—1, 2, 3, 7, 8, 11, 12.  
*T. smilax*, Don.—2, 12.  
*T. sana*, Butl.—2, 3, 11, 12.  
*T. laeta lineata*, Misk.—Groote Eylandt 12; Winchilsea Island 4.  
*T. herla*, Macl.—1, 2, 3, 4, 11, 12.

## Family PAPILIONIDAE.

- Papilio demoleus sthenelus*, Macl.—Groote Eylandt 8; Woodah Island 4; Woody Island 4.  
*P. fuscus canopus*, Westw.—1, 2.  
*P. eurypilus nyctimus*, Waterhouse and Lyell—4.  
*Eurycus cressida cassandra*, Waterhouse and Lyell—2, 3, 4, 11, 12.

## Family HESPERIDAE.

- Toxidia sexguttata*, Herr.-Schaeff.—Groote Eylandt 2; Winchilsea Island 4.  
*Neohesperilla crocea*, Misk.—1, 2, 3.  
*Padraona flavovittata walkeri*, Heron—2, 3.  
*P. sunias*, Feld., var.—2, 3.  
*Telicota augias krefftii*, Macl.—2.  
*Parnara mathias*, Fab.—Groote Eylandt 2, 5; Woody Island 4.  
*Badamia exclamationis*, Fab.—4.

## EXPLANATION OF PLATES XXVIII. to XXX.

## PLATE XXVIII.

- Fig. 1. *Euploea usipetes hippias*, Miskin, Type female, Thursday Island.  
 „ 2. *Hypocysta adiantae antirius*, Butler, male, Groote Eylandt.  
 „ 3. „ „ „ „ female, Groote Eylandt.  
 „ 4. *Oreixenica orichora flynni*, Hardy, Type male, Cradle Mountain.  
 „ 5. „ „ „ „ female, Cradle Mountain.  
 „ 6. „ „ „ „ male, reverse, Cradle Mountain.  
 „ 7. *Precis v. villida*, Fab., aberration, Brisbane.  
 „ 8. *Pyrameis c. kershawi*, McCoy, ab. *lucasi*, Miskin, Victoria.  
 „ 9. *Hypolimnas missipus*, Linné, female, normal form, Kuranda.  
 „ 10. „ „ „ „ female, variety, Darwin.  
 „ 11. *Atella phalanta araca*, Waterhouse and Lyell, female, Darwin.

## PLATE XXIX.

- Fig. 12. *Ogyris zosine splendida*, Tindale, Type female, Mount Painter.  
 „ 13. „ „ *zosine*, Hew., female, Brisbane.  
 „ 14. „ „ *typhon*, female, f. *iberia*, Waterhouse and Lyell, Townsville.  
 „ 15. „ „ „ Waterhouse and Lyell, female, Townsville.  
 „ 16. „ *halmaturia*, Tepper, Type male, Kangaroo Island = *otanes*, Felder.  
 „ 17. „ *otanes*, Feld., male, Kangaroo Island.  
 „ 18. „ „ „ „ reverse, Adelaide.  
 „ 19. „ „ „ female, Adelaide.  
 „ 20. „ *h. halmaturia*, Tepper, Type, a male, Kangaroo Island.  
 „ 21. *Hypolycaena phorbas ingura*, Tindale, Type male, Groote Eylandt.  
 „ 22. „ „ „ „ female, Groote Eylandt.  
 „ 23. „ „ *phorbas*, Fab., male, Townsville.  
 „ 24. „ „ „ „ female, Townsville.

## PLATE XXX.

- Fig. 25. *Delias emia dorothea*, Tindale, Type male, Coen River.  
 „ 26. „ „ *nigidius*, Miskin, male, Kuranda.  
 „ 27. *Elodina perdita tongura*, Tindale, Type male, Groote Eylandt.  
 „ 28. „ „ „ „ female, Groote Eylandt.  
 „ 29. *Papilio amyntor amphiaraus*, Feld., female, Norfolk Island.  
 „ 30. *Liphyra brassolis melania*, Waterhouse and Lyell, Type female, Groote Eylandt.
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